

Claims

What is claimed is:

1. A composition comprising (essentially consisting of) a combination of essentially
5 nonvolatile, unsaturated esters/ ethers/ ether-esters, and a low glass transition temperature
(T_g) latex resin.
2. The composition of claim 1, further comprising a nonvolatile reactive amine.
- 10 3. The composition of claim 1 or 2, further comprising a organometallic.
4. The composition of claim 1, wherein the composition is a latex coating, ink or paint.
5. The composition of any of claims 1-4, wherein the coalescent comprises (consists essentially
15 of) the combination of essentially nonvolatile, unsaturated esters/ ethers/ ether-esters, and a
low glass transition temperature (T_g) latex resin.
6. The composition of claim 5, wherein the coalescent further comprises (consists essentially
of) a nonvolatile reactive amine.
- 20 7. The composition of claim 5, wherein the coalescent further comprises (consists essentially
of) an organometallic.
8. The composition of claim 5, wherein the coalescent further comprises (consists essentially
25 of) a nonvolatile reactive amine and a organometallic.
9. The composition of any of claims 1-9, wherein the composition is essentially devoid of
conventional surfactants.
- 30 10. A coalescent system for latex resins comprising a combination of essentially nonvolatile,
unsaturated esters/ ethers/ ether-esters, and low T_g latex resins.

11. The composition of any of claims 1-10, wherein the unsaturated esters/ ethers/ ether-esters comprise one or more hydroxyl functional groups.
12. A coalescent system for acrylic latex resins comprising a combination of essentially
5 nonvolatile, unsaturated esters/ ethers/ ether-esters, and low Tg latex resin(s), and optionally from 0.2 to about 2 weight % of one or more organometallic based surfactants, and optionally from 0.1 to about 4% of essentially non-volatile reactive amine(s).
13. A coalescent system for vinyl, and or vinyl copolymer latex resins comprising a combination
10 of from 1 to 15% essentially nonvolatile, unsaturated esters/ ethers/ ether-esters, and from 1 to 15% of low Tg latex resin(s), and optionally from 0.1 to about 2 weight % of one or more metallic based surfactants, and optionally from 0.1 to about 4% of essentially non-volatile reactive amine(s).
- 15 14. A coalescent system for styrenic copolymer latex resins comprising a combination of essentially nonvolatile, unsaturated esters/ ethers/ ether-esters, and low Tg latex resin(s), and optionally from 0.1 to about 2 weight % of one or more metallic based surfactants, and optionally from 0.1 to about 4% of essentially non-volatile reactive amine(s).
- 20 15. A coalescent system for polyurethane latex resins comprising a combination of essentially nonvolatile, unsaturated esters/ ethers/ ether-esters, and low Tg latex resin(s), and optionally from 0.1 to about 2 weight % of one or more metallic based surfactants, and optionally from 0.1 to about 4% of essentially non-volatile reactive amine(s).
- 25 16. A coalescent system for polyester latex resins comprising a combination of essentially nonvolatile, unsaturated esters/ ethers/ ether-esters, and low Tg latex resin(s), and optionally from 0.1 to about 2 weight % of one or more metallic based surfactants, and optionally from 0.1 to about 4% of essentially non-volatile reactive amine(s).
- 30 17. A method for coalescing a latex resin comprising combining a latex resin with an essentially nonvolatile unsaturated ester/ ether/ ether-ester and a low Tg latex resin.

18. The method of claim 17, further comprising combining from 0.2 to about 2 weight % of one or more organometallic based surfactants.
- 5 19. The method of claim 17, further comprising combining from 0.1 to about 4 weight % of essentially non-volatile reactive amine(s).
20. The method of claim 18, further comprising combining from 0.1 to about 4 weight % of essentially non-volatile reactive amine(s).
- 10 21. The method of any of claims 17-20, wherein the latex resin is a vinyl copolymer.
22. The method of any of claims 17-20, wherein the latex resin is a styrenic copolymer.
- 15 23. The method of any of claims 17-20, wherein the latex resin is an acrylic polymer or copolymer.
24. A method of making any one of a low VOC latex coating, paint, or ink, comprising combining a latex resin with an essentially nonvolatile, unsaturated ester/ ether/ ether-ester and low Tg latex resin(s).
- 20 25. The method of claim 24, further comprising combining from 0.2 to about 2 weight % of one or more zirconium based surfactants and/or from 0.1 to about 4 weight % of essentially non-volatile reactive amine(s).
- 25 26. The method of claim 24 or 25, wherein the latex coating, paint, or ink is essentially devoid of VOCs.
27. A product made by the process of combining essentially nonvolatile, unsaturated esters/ ethers/ ether-esters, and low Tg latex resin(s), and optionally from 0.1 to about 2 weight %
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of one or more organometallic based surfactants, and optionally from 0.1 to about 4% of essentially non-volatile reactive amine(s).

5 28. A method of making a low VOC latex coating, useful as floor coating, architectural and/or maintenance coatings, comprising combining a latex resin with an essentially nonvolatile, unsaturated ester/ ether/ ether-ester and low Tg latex resin(s).

10 29. A method of making a low VOC latex coating, useful as a floor coating, architectural and/or maintenance coatings, comprising combining a latex resin with an essentially nonvolatile, unsaturated ester/ ether/ ether-ester and low Tg latex resin(s) wherein the coalescent further comprises a nonvolatile reactive amine, and optionally, an organometallic, and/ or a polyglycol mono ether, and or polyglycol mono ether ester, preferably a polyglycol mono ether ester having an hydroxyl group alpha or beta to the ester carboxyl.

15 30. A low VOC latex coating, useful as a floor coating, architectural and/or maintenance coatings, comprising a latex resin with an essentially nonvolatile, unsaturated ester/ ether/ ether-ester and low Tg latex resin(s) as a coalescent, wherein the coalescent further comprises a nonvolatile reactive amine, and optionally, an organometallic, and/ or a
20 polyglycol mono ether, and or polyglycol mono ether ester, preferably a polyglycol mono ether ester having an hydroxyl group alpha or beta to the ester carboxyl.

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